

Application No. 09/699,224

Response dated October 21, 2004

Response to Notice Of Non-Compliant Amendment September 23, 2004

**Remarks**

Applicants appreciate the Examiner's time taken and helpful comments provided during the telephonic interview of August 18, 2004.

Applicants have amended claim 1 to add the limitation "wherein said peptide mimic is less than 50 amino acids in length." Support for this amendment may be found in the specification at page 12, lines 1-3.

Applicants have amended claim 2 as suggested by the Examiner to delete "DE\_GLF" and only recite "SEQ ID NO:8". Support for this amendment may be found in the sequence listing filed with the application.

Applicants have amended claim 6 to delete the term "tail" in claim 6, instead stating that the peptide mimic is "coupled to a second agent," according to the Examiner's suggestion. Support for this amendment is found at page 19, lines 23-27. This amendment does not narrow claim 6 in any way.

Applicants submit that these amendments place the claims in condition for allowance. No new matter has been added.

**The Objections**

Regarding the objection to the drawings made in paragraph 7 and set forth in Form PTO 948, applicants will submit formal drawings upon receipt of the Notice of Allowability, as set forth in 37 C.F.R. § 1.85.

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The Rejections

Double Patenting

The Examiner has maintained the rejection of claims 1, 3, 10, 12, 13 and 15 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 and 6 of U.S. Patent No. 5,476,784 ('784), claims 1-9 and 11 of U.S. Patent No. 5,939,067 ('067), and claims 1-4 of U.S. Patent No. 6,099,839 ('839).

Applicants traverse.

As discussed in detail below, applicants' amended claims are not anticipated by any of the claims from the '784, '067, and '839 patents cited by the Examiner. Nor are any of the amended claims obvious in view of the cited claims. Applicants' claims are directed to peptide mimics that are capable of inducing an immune response and that are less than 50 amino acids in length. In contrast, the cited prior art discusses anti-idiotypic antibody fragments that may or may not retain the binding specificity of the parent antibody and that may be hundreds to thousands of amino acids in length. No fragments are exemplified in the three cited patents.

Antibody fragments mentioned in the '067 patent, for example, such as heavy chain monomers or dimers, light chain monomers or dimers, dimers consisting of one heavy and one light chain, Fab, Fab' F(Ab')<sub>2</sub>, and F(v) fragments, are all much larger than 50 amino acids. Fragments comprised of one or more complementarity determining regions (CDRs),

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while potentially less than 50 amino acids, represent less than the entire epitope binding portion of the antibody, and are therefore less certain to bind a given epitope and elicit an immune response. Mere discussion of such fragments, which may or may not bind to a conserved gonococcal epitope, without more, does not confer upon one of skill in the art a reasonable expectation of successfully achieving the presently claimed immune response with relatively short peptides. Accordingly, this rejection may properly be withdrawn.

35 U.S.C. § 112, second paragraph

The Examiner has rejected claim 2 as indefinite for reciting “DE\_GLF” because it is not clear what is meant by “\_.” Applicants have amended claim 2 to refer only to SEQ ID NO: 8, as suggested by the Examiner.

The Examiner asserts that claim 6 is indefinite for reciting the term “tail” because it is not clear what is encompassed by this term. Applicants have deleted reference to this term, as suggested by the Examiner.

For all the above reasons, applicants respectfully request that the Examiner withdraw the 35 U.S.C. § 112, second paragraph rejections.

35 U.S.C. § 102

The Examiner has maintained the rejection of claims 1, 3, 9, 10, 12 and 13 under 35 U.S.C. § 102(e) or 102(a) as being anticipated by the ‘067 patent, and under 35 U.S.C. § 102(b) as being anticipated by the ‘784 patent.

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Applicants have amended claim 1 to include the limitation "wherein said peptide mimic is less than 50 amino acids in length." This amendment distinguishes the claimed invention from the fragments of the cited art in that the fragments discussed therein are either (1) more than 50 amino acids in length, or (2) too short to contain the entire antigen binding site and therefore of uncertain capacity to bind epitope and elicit an immune response, as discussed above.

For these reasons, the rejections under 35 U.S.C. § 102 may properly be withdrawn.

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**CONCLUSION**

In view of the foregoing remarks, applicants request that the Examiner favorably consider this application and allow the claims pending herein.

Respectfully submitted,



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